

## REMARKS

In a final Office Action dated February 6, 2009, the Examiner in charge of the application correctly stated the status of the claims; Claims 21 and 23-27 are pending and under consideration. The Examiner maintained that the prior-filed applications do not teach methods that combine laminar flow and micro-channels and, accordingly, granted a priority date of October 18, 2002.

The Examiner rejected Claims 21, 23-25, and 27 under 35 U.S.C. § 103(a) for alleged obviousness over Shrewsbury *et al.*, in view of Bensimon. The Examiner further rejected Claim 26 for alleged obviousness over Shrewsbury *et al.*, in view of Bensimon, in further view of Kaiser. Applicants respond to each rejection below. All newly presented amendments are intended to place the claims into condition for allowance. In view of the amendments noted above and the remarks below, Applicants respectfully request reconsideration.

The Examiner alleged that Shrewsbury teaches the first two steps of the method recited in Claim 21, i.e., straightening and fixing polymeric molecules by (a) putting the polymeric molecules in a carrier liquid; and (b) passing the polymeric molecules and carrier liquid through a micro-channel having a first wall to promote a laminar flow of carrier liquid in the micro-channel that elongates the polymeric molecule and causes the polymeric molecule to achieve a straightened configuration. The Examiner relies on Bensimon for teaching adhering the molecule to the first wall. According to the Examiner, it would have been obvious to combine Shrewsbury with Bensimon to attain Applicants' invention.

Shrewsbury and Bensimon do not teach what the Examiner alleged they teach and the skilled artisan would have been discouraged from combining the two documents. Shrewsbury teaches away from adhering the polymeric molecule in a straightened configuration to the first wall. Shrewsbury fails to consider the concept of adhering the molecule, much less a straightened molecule, to a wall of the micro-channel. In fact, Shrewsbury teaches that the molecule is coiled more at the wall (page 579, second column). According to Shrewsbury, "the more highly coiled state ... may be due to ... interactions between the wall and the DNA." Thus, one of ordinary skill in the art reading Shrewsbury would be discouraged from inducing interaction between the wall and the DNA because the DNA would coil, not straighten, as claimed. Applicants amend Claim 21 to clarify that the adhering polymeric molecule is

straightened over its length when attached to the wall. In view of this amendment, Applicants cancel Claim 25.

Bensimon cannot teach or suggest removing the wall of a micro-channel because Bensimon does not teach micro-channels in the first place. The Examiner alleged that "detaching the first wall from the micro-channel" is obvious because Bensimon teaches analyzing the DNA on a slide. However, Bensimon teaches using two cover slips, not micro-channels, to elongate polymeric molecules. Bensimon further teaches using capillary action/convection, not laminar flow, to align polymeric molecules and expressly teaches away from laminar flow, as less efficient.

The Examiner further alleged that one of ordinary skill in the art would have used a condensing agent in the method of Claim 26 after reading Kaiser *et al.* However, neither Shrewsbury nor Bensimon contemplate or disclose using laminar flow alone to elongate and fix polymeric molecules within microchannels. Kaiser does not bridge the gaps among Shrewsbury, Bensimon, and the pending claims because, while Kaiser teaches treating polymeric molecules with a condensing agent, Kaiser does not contemplate or disclose using laminar flow alone to elongate and fix polymeric molecules. Reconsideration is respectfully requested.

Applicants have made a diligent effort to place the pending claims into condition for allowance. Should any issues remain, Applicants respectfully request that the Examiner contact Applicants' attorney directly to expeditiously resolve them. For the reasons stated herein, this application is now believed to be in condition for allowance and such action is respectfully requested.

#### Fees

A Request for Continued Examination accompanies this response. No fee other than the RCE fee is believed due in connection with this submission. However, if a fee is due, in this or any subsequent response, please charge the fee to Deposit Account No. 17-0055. Likewise, no extension of time is believed due, but should any extension of time be due in this or any

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subsequent response, please consider this to be a petition for the appropriate extension and a request to charge the fee due to the same Deposit Account.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Bennett J. Berson", is written over a horizontal line.

Bennett J. Berson  
Reg. No. 37,094  
Attorney for Applicants  
QUARLES & BRADY LLP  
P.O. Box 2113  
Madison, WI 53701-2113

TEL (608) 251-5000  
FAX (608) 251-9166